

Amendments to the Drawings:

Three sheets of replacement drawings are attached. In the first sheet, reference number 206 in Figure 2 has been changed from 206 to 204.

In the second sheet, the following changes have been made to Figure 43:

- reference number 4312 has been changed to 4330; and
- reference number 4314 has been changed to 4332.

In the third sheet, the following changes have been made to Figure 44:

- all four occurrences of reference number 4310 have been changed to 4311.

These changes correct inadvertent duplication of reference numbers for different illustrated features and make the drawings more consistent with the Detailed Description. These changes do not introduce any new matter.

REMARKS

Applicant appreciates the Examiner's attention to this application. The Office Action dated September 10, 2004 provided a Notice of Non-compliant Amendment, with regard to Applicant's response dated June 17, 2004. Specifically, the Notice of Non-compliant Amendment indicated that (a) the paragraph numbers used in Applicant's response did not appear in the application as originally filed, and (b) a typographical error in claim 19 to be corrected by Applicant's response also did not appear in the application as originally filed.

This response uses page and line numbers instead of paragraph numbers to identify the amendments desired by Applicant. Also, the attempted correction to the typographical error mentioned above is omitted from this response, as that typographical error appears in the published application, but not in the application as originally filed.

As indicated below, corrections for other transcriptional errors between the application as filed and the application as published have been requested. If those types of errors cannot be corrected in this manner, those amendments may be disregarded. In addition, if there are any questions regarding those corrections, the undersigned would almost certainly be receptive to resolving such questions over the telephone.

The rest of these remarks address the Office Action dated December 17, 2003. That Office Action objects to the disclosure because of an informality, and objects to FIGs. 44A-44D because of inconsistency with the Brief Description of the Drawings. This response amends the specification to overcome those objections, to make the Detailed Description more consistent with the drawings, and to cure some apparent transcription errors between the filed application and the published application.

The Office Action also indicates that claims 15-18 have been withdrawn due to an election/restriction requirement.

This response cancels claims 1-18 and 20-25. This response adds claims 26-43. This response amends claim 19. Claims 19, 26, 31, 35, and 41 are the pending independent claims.

Reconsideration of the present application in view of the enclosed amendments and remarks is respectfully requested.

ARGUMENT

The Office Action includes rejections based on 35 U.S.C. §§ 101, 102(a), and 103(a). To the extent that any of those rejections might be applied to the claims now pending, Applicant respectfully traverses.

35 U.S.C. § 101

The Office Action rejects claims 1-7 and 19-25 under 35 U.S.C. § 101 as being directed to nonstatutory subject matter. The claim amendments in this response overcome this rejection.

35 U.S.C. § 102(a)

The Office Action rejects claims 1-7 and 19-25 under 35 U.S.C. § 102(a) as being anticipated by U.S. patent no. 6,038,381 to Michael Munch et al. (hereinafter "Munch"). To the extent that those rejections might be applied to the pending claims, Applicant respectfully traverses.

Munch pertains to a method for analyzing hardware circuit to identify opportunities to reduce power consumption. For instance, lines 9 through 26 of column 13 describe a process of analyzing hardware components such as registers and multiplexers (muxes) to identify potential opportunities to reduce power consumption.

The present invention, by contrast, pertains to a data structure and related methods and apparatuses for representing relationships between elements of a software system. For instance, some embodiments provide for debugging a software system, based on a graph representing control constraints of the software system.

Accordingly, the pending claims recite many features that are not disclosed by Munch. For example, claim 26 pertains to a data structure comprising conjunctive nodes and disjunctive nodes “that represent characteristics of a software system” and directed edges connecting the conjunctive nodes and the disjunctive nodes. Furthermore, claim 26 recites that the directed edges represent potential influences of input nodes on output nodes, and claim 26 recites various specific behaviors for directed edges. Claims 31 and 35 involve similar features. Munch, however, does not disclose these features.

Claim 19 describes a method of creating a static control graph to facilitate analysis of a software system, with operations that comprise “creating, for each new conjunctive node that generates an output value, a new outgoing edge from the conjunctive node to a corresponding disjunctive node.” Claim 41 describes a software tool that involves a similar feature. Munch, however, discloses no such feature.

Accordingly, Munch does not anticipate any of the pending independent claims.

35 U.S.C. § 103(a)

The Office Action rejects claims 8-14 under 35 U.S.C. § 103(a) as being unpatentable over Munch in view of U.S. patent no. 6,134,676 to Gary Alan VanHuben et al. (hereinafter “VanHuben”). To the extent those rejections might be applied to the pending claims, Applicant respectfully traverses.

VanHuben relates to a method for monitoring programmable hardware events. Neither VanHuben nor Munch provides a motivation to combine Munch and VanHuben. Furthermore, VanHuben does not disclose or suggest the features of the pending claims quoted above with regard to Munch.

Consequently, even if Munch and VanHuben were to be combined, the combination would not render the pending independent claims unpatentable. In addition, the dependent claims inherently include the features of their respective parent claims. The dependent claims therefore also patentably define the present invention over Munch and VanHuben.

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For reasons including those set forth above, the Office Action fails to make out a *prima facie* case of obviousness for any of the pending claims. In addition, the pending claims recite numerous additional features that are not disclosed or suggested by any of the cited art.

For these and other reasons, all pending claims are allowable.

CONCLUSION

In view of the foregoing remarks, claims 19 and 26-43 are all in condition for allowance.

If the Examiner has any questions, the Examiner is invited to contact the undersigned at (512) 732-3927. Early issuance of Notice of Allowance is respectfully requested.

Respectfully submitted,

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